Homework 4.2 Question

Suppose you have a collection called *tweets* whose documents contain information about the *created_at* time of the tweet and the user's *followers_count* at the time they issued the tweet. What can you infer from the following *explain* output?

```
> db.tweets.explain("executionStats").find( { "user.followers_count" : {
$gt : 1000 } } ).limit(10).skip(5000).sort( { created_at : 1 } )
{
    "queryPlanner" : {
        "plannerVersion" : 1,
        "namespace" : "twitter.tweets",
        "indexFilterSet" : false,
        "parsedQuery" : {
            "user.followers_count" : {
                "$gt" : 1000
            }
        },
        "winningPlan" : {
            "stage" : "LIMIT",
            "limitAmount" : 0,
            "inputStage" : {
                "stage" : "SKIP",
                "skipAmount" : 0,
                "inputStage" : {
                    "stage" : "FETCH",
                    "filter" : {
                        "user.followers_count" : {
                            "$gt" : 1000
                        }
                    },
                    "inputStage" : {
                        "stage" : "IXSCAN",
                        "keyPattern" : {
                            "created_at" : -1
```

```
                    },
                    "indexName" : "created_at_-1",
                    "isMultiKey" : false,
                    "direction" : "backward",
                    "indexBounds" : {
                        "created_at" : [
                            "[MinKey, MaxKey]"
                        ]
                    }
                }
            }
        }
    },
    "rejectedPlans" : [ ]
},
"executionStats" : {
    "executionSuccess" : true,
    "nReturned" : 10,
    "executionTimeMillis" : 563,
    "totalKeysExamined" : 251120,
    "totalDocsExamined" : 251120,
    "executionStages" : {
        "stage" : "LIMIT",
        "nReturned" : 10,
        "executionTimeMillisEstimate" : 500,
        "works" : 251121,
        "advanced" : 10,
        "needTime" : 251110,
        "needFetch" : 0,
        "saveState" : 1961,
        "restoreState" : 1961,
        "isEOF" : 1,
        "invalidates" : 0,
        "limitAmount" : 0,
```

```
"inputStage" : {
    "stage" : "SKIP",
    "nReturned" : 10,
    "executionTimeMillisEstimate" : 500,
    "works" : 251120,
    "advanced" : 10,
    "needTime" : 251110,
    "needFetch" : 0,
    "saveState" : 1961,
    "restoreState" : 1961,
    "isEOF" : 0,
    "invalidates" : 0,
    "skipAmount" : 0,
    "inputStage" : {
        "stage" : "FETCH",
        "filter" : {
            "user.followers_count" : {
                "$gt" : 1000
            }
        },
        "nReturned" : 5010,
        "executionTimeMillisEstimate" : 490,
        "works" : 251120,
        "advanced" : 5010,
        "needTime" : 246110,
        "needFetch" : 0,
        "saveState" : 1961,
        "restoreState" : 1961,
        "isEOF" : 0,
        "invalidates" : 0,
        "docsExamined" : 251120,
        "alreadyHasObj" : 0,
        "inputStage" : {
            "stage" : "IXSCAN",
```

```
                    "nReturned" : 251120,
                    "executionTimeMillisEstimate" : 100,
                    "works" : 251120,
                    "advanced" : 251120,
                    "needTime" : 0,
                    "needFetch" : 0,
                    "saveState" : 1961,
                    "restoreState" : 1961,
                    "isEOF" : 0,
                    "invalidates" : 0,
                    "keyPattern" : {
                        "created_at" : -1
                    },
                    "indexName" : "created_at_-1",
                    "isMultiKey" : false,
                    "direction" : "backward",
                    "indexBounds" : {
                        "created_at" : [
                            "[MinKey, MaxKey]"
                        ]
                    },
                    "keysExamined" : 251120,
                    "dupsTested" : 0,
                    "dupsDropped" : 0,
                    "seenInvalidated" : 0,
                    "matchTested" : 0
                }
            }
        }
    }
},
"serverInfo" : {
    "host" : "generic-name.local",
    "port" : 27017,
```

```
        "version" : "3.0.1",

        "gitVersion" : "534b5a3f9d10f00cd27737fbcd951032248b5952"

    },

    "ok" : 1

}
```

Check all that apply:
a. The query uses an index to determine the order in which to return result documents.
b. The query uses an index to determine which documents match.
c. The query returns 251120 documents.
d. The query examines 251120 documents.
e. The query is a covered query.